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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/765,293

01/27/2004

James A. Zagzebski

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9187

23598 7590 09/09/2009
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EXAMINER

SHAHRESTANI, NASIR

ART UNIT

PAPER NUMBER

3737

NOTIFICATION DATE

DELIVERY MODE

09/09/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

Notice of Allowability

Application No.

10/765,293

Applicant(s)

ZAGZEBSKI ET AL.

Examiner

NASIR SHAHRESTANI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 11/18/2008.
2. ☒ The allowed claim(s) is/are 1,5-21,25-30 and 32-48.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

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EXAMINER'S AMENDMENT

(Supplemental)

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Keith Baxter on 07/06/2009.

1. (currently amended) An ultrasonic elastography system comprising:
an ultrasonic transducer system ~~adaptable~~ configured to provide a set of echo signals from at least two different angles over a plurality of voxels in a region of interest, the set of echo signals including first echo signals taken with tissue of the region of interest substantially at rest in a first compressive state and second echo signals taken with tissue of the region of interest substantially at rest in a second compressive state; a each echo signal associated with a single different angle;
a memory device wherein the echo signals are stored for subsequent processing;
a processor executing a stored program to combine at least portions of echo signals from the different angles through a voxel, after they have been stored in the memory device, to produce at least one compounded strain measurement for the voxel in the region of interest along a predetermined single given angle, the compounded strain measurement being produced by determining relative displacement in time of the portions of the echo signals to deduce

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displacement between tissue between the first compressive state and the second compressive state; and

a graphic display communicating with the processor to receive and display the compounded strain measurement on the graphics display for viewing by a user of the ultrasonic elastography system.

25. (currently amended) The method of claim ~~22~~ 21 wherein step (d) receives the different angles of the ultrasonic echo signals underlying the compounded strain measurement to convert strain measurements derived from the ultrasonic echo signals underlying the compounded strain measurement to equivalent strain measurements along a predetermined strain axis of the single given angle; and

combines the equivalent strain measurements to produce the compounded strain measurement.

31. (canceled)

32. (currently amended) The method of claim ~~31~~ 21 wherein the weighting function is $w(\theta) = 1/(\cos^2 \theta - v \sin^2 \theta)$;

where v is an estimate of Poisson's ration of the tissue of the region of interest; and

θ is the angle between the angle of the strain measurement and the predetermined strain axis.

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The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach nor suggest each of multiple axes of elasticity be derived from two angles of echo data while combining echo signals taken at two different angles into an elastography measurement having a single direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mon.-Thurs: 7:30-5:00, 2nd Friday: 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
3737

/Nasir Shahrestani/
Examiner, Art Unit 3737